KS4 Year 9 – Computer Science Curriculum Map: Autumn Term 2022–23

The Computer Science GCSE course is intended to provide students with the fundamental principles and concepts of computer science including; abstraction, decomposition, logic and algorithms. They will be able to analyse problems in computational terms through problem solving by designing, writing and debugging programs. The course has two units, which are externally examined at the end of the course.

Learning Unit: Autumn Term	Assessment Deadlines	Homework Areas	Extended Learning opportunity
Key questions What is computer logic? What is the link between Boolean logic and binary? What are the programming fundamentals? How do I write programs to store input from a user How could this input be manipulated? How is data stored and counted in binary and hexadecimal?	No assignment deadlines applicable	Homework will be set on a weekly basis, which will mainly consist of practicing programming techniques taught in class .	Pupils will be advised to research and read further around each topic being covered in the class to increase their knowledge and understanding.
Content covered • Know the importance of Boolean logic and how logic gates are used to build circuits in computer systems • Understand the importance of the construction of computer code when writing programs • Know how to store data, input by the user • Know how code comparison statements to make choices based on what has been input • Know how to write programs to receive user input and use this input to interact with the user			
Literacy and Numeracy Boolean, Hexadecimal, Selection, Sequential, String, Variable, Input Students will learn how to use two new number systems; base 2 and base 16			

What parents can do to help your child?
Parents can help their child by making sure that they do some independent learning using Python

Additional resources
Students will have access to a python programming tutorial website and Computer Science UK membership to recap topics taught in class.

Who to contact if you have any query about the subject: In the first instance we would encourage you to get in touch with the subject teacher – the student planner may be one way of communicating. You may also wish to contact the Curriculum Leader for the subject which is Mr Qureshi who will also be able to help.

KS4 Year 9 – Computer Science Curriculum Map: Spring Term 2022–23

The Computer Science GCSE course is intended to provide students with the fundamental principles and concepts of computer science including; abstraction, decomposition, logic and algorithms. They will be able to analyse problems in computational terms through problem solving by designing, writing and debugging programs. The course has two units, which are externally examined at the end of the course.

Learning Unit: Spring Term	Assessment Deadlines	Homework Areas	Extended Learning opportunity
Key questions How is sound digitised in a computer? What is compression and why is it important? How are integers used in programs? What does iteration mean in programming terms? **Content covered** • Know the how analogue is converted to digital sound • Understand the importance using iteration loops in programming • Know how write programs that use selection and iteration • Know how to correct and debug program code **Literacy and Numeracy** While Loop, For Loop, Selection, Sequential, Integer, Sample Rate, Bit Depth	No assignment deadlines applicable	Homework will be set on a weekly basis, which will mainly consist of practicing programming techniques taught in class .	Pupils will be advised to research and read further around each topic being covered in the class to increase their knowledge and understanding.
What parents can do to help your child? Parents can help their child by making sure that they do some independent learning using Python			
Additional resources Students will have access to a python programming tutorial website and Computer Science UK membership to recap topics taught in class.			
Who to contact if you have any query about the subject: In the first instance we would encourage you to get in touch with the subject teacher – the student planner may be one way of communicating. You may also wish to contact the Curriculum Leader for the subject which is Mr Qureshi who will also be able to help.			

KS4 Year 9 – Computer Science Curriculum Map: Summer Term 2022–23

The Computer Science GCSE course is intended to provide students with the fundamental principles and concepts of computer science including; abstraction, decomposition, logic and algorithms. They will be able to analyse problems in computational terms through problem solving by designing, writing and debugging programs. The course has two units, which are externally examined at the end of the course.

Learning Unit: Summer Term	Assessment Deadlines	Homework Areas	Extended Learning opportunity
Key questions What is the importance of algorithms? How several data types be stored in one variable Why are sub-routines important in programming? How to write programs to interact with external data? What does iteration mean in programming terms? **Content covered** • Know how to write pseudocode to solve computational problems • Understand the importance of lists and arrays in programs • Know how write programs using text files • Know how to correct and debug program code **Literacy and Numeracy** List, Array, Pseudocode, Linear Search, Binary Search	No assignment deadlines applicable	Homework will be set on a weekly basis, which will mainly consist of practicing programming techniques taught in class .	Pupils will be advised to research and read further around each topic being covered in the class to increase their knowledge and understanding.
What parents can do to help your child? Parents can help their child by making sure that they do some independent learning using Python			
Additional resources Students will have access to a python programming tutorial website and Computer Science UK membership to recap topics taught in class.			
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